EX PARTE OR LATE FILED

CITY OF MESA
Great People, Quality Service!

FAX COVER SHEET

WT Docket # 96-86
2nd NPRM
EX PARTE

Date: 4/15/98

TO: **Name:** John Clark

Location: Wrobel Bureau

FAX Number:

FROM: **Name:** Joe Bruno

Location: City of Mesa, Communications Division

FAX Number: 602-644-3173

Number of pages to follow:

Message:

No. of Copies rec'd 0+0
List ABCDE

Communications Division

We, Too, Have A Dream
A Nationwide Network of Public Safety Communications Systems

by
Joe Bruno
Assistant Communications Director
City of Mesa, Arizona

April 15, 1998

We, Too, Have A Dream
A Nationwide Network of Public Safety Communication Systems

"I believe this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the Moon and returning him safely to the Earth. No single space project in this period will be more impressive to mankind, or more important for the long-range exploration of space, and none will be so difficult or expensive to accomplish." President John F. Kennedy, speech to U.S. Congress, May 25, 1961.

"Some men see things as they are, and ask, Why? I dream of things that never were and ask, Why not?" Robert F. Kennedy

"I have a dream that someday..." Rev. Dr. Martin Luther King, Jr. on 28 August 1963

"My fellow citizens, our Nation is poised for greatness. We must do what we know is right and do it with all our might." Ronald Reagan's second inaugural address Monday, January 21, 1985

Regardless of what you think about their politics, these men had passion and vision for the things in which they believed.

A ubiquitous, nationwide network of public safety communication systems is not an issue of technology – it's an issue of passion and vision. Our achievements toward this goal are limited only by our relentless, yet prudent, pursuit of a capability that is desperately needed in our nation.

There is an increasing awareness within the public safety community, the Federal Communications Commission, the Congress, and the nation that public safety communication interoperability is essential to preserving life, property, and natural resources during times of emergencies. More financial and human resources are being used to improve communications interoperability than ever before in our history, but toward what end? Exactly where are we all going? What is our individual and collective vision? The public safety community needs to respond with purpose and likemindedness to the trust and confidence we worked so hard to earn. We must define our needs, envision the solution, establish our goals, work our plan, and communicate our vision with clarity and purpose – together.

There are many ways to bring this about. It would be difficult to argue that one process is right, and another is wrong. For the sake of discussion, a ten step approach is offered as a starting point.

1. Select gifted men and women to craft a vision.
2. Identify the communications capabilities needed by the users.
3. Recognize and acknowledge the limits and opportunities the laws of physics pose.

4. Envision the ideal.
5. Evaluate alternative solutions and select one.
6. Plan out a course of action; establishing objectives and milestones.
7. Communicate the vision and the plan.
8. Work the plan; adjust only as needed.
9. Stay abreast of new operational requirements and technologies.
10. Provide continual updates and progress reports; acknowledging failures and successes.

Select gifted men and women to craft a vision

The ability to create a vision is a gift – an innate talent. Vision is not something cultivated or easily understood by those who do not possess it. You simply cannot describe anything you cannot see or picture in your mind. Architects see the buildings they create in their mind before they put the vision to paper. Construction craftsmen bring the vision to fruition, but they are not architects – they are implementers.

The excerpts used in the introduction of this paper were not created by implementers or large, multi-perspective committees trying to solve a problem. They were crafted by individuals or small groups of people gifted with vision. If we want to be successful in creating a public safety communications interoperability vision, we must give the well respected, seasoned men and women in the public safety community who are gifted visionaries the opportunity to create it.

The fact of the matter is that there are visionaries out there who already "see" what this should look like. We need to take what they "see" and move to the next step.

Identify the communications capabilities needed by the users

A plethora of current information is available through the annuls of the public safety community on this subject. It is a matter of pulling it all together, and analyzing what we know to be true.

"After Action" reports from disasters that required multijurisdictional public safety service response are vital sources of information for this step. Disasters such as: the World Trade Center and Oklahoma City bombing; Value Jet and TWA 800 plane crashes; Oakland fire and San Francisco earthquake; the floods of the Midwest, North Dakota, and California; the Florida hurricanes and tornadoes; etc. have provided great insight into public safety communications capabilities and limitations.

Investigative work performed by the Public Safety Wireless Advisory Committee (PSWAC), the Public Safety Wireless Network (PSWN) effort, the National Public Safety Telecommunications Council (NPSTC), and other nationwide efforts continues to help flesh out the community's needs. Work performed by federal, state, county, and local government public safety service providers is also germane to this issue.

It is important that the team be comprised only of visionaries. Although the work is primarily objective in nature, there is an element of subjectivity that only those with vision will see. This ultimately will make the difference in creating a solution that meets the actual versus the perceived needs.

Recognize and acknowledge the limits and opportunities the laws of physics pose

It is well past the time to "put a stake in the ground" regarding the laws of physics on two-way radio communications. There are no secrets or new revelations here, yet no one seems willing to say it publicly. There are probably two feasible approaches to reaching nationwide interoperability that permits public safety officials opportunity to use one radio across the nation. Public safety must either operate in one, single frequency band or advances in technology must produce multiband radios that are comparable in performance, size, and cost to single band radios.

The PSWAC report and professionals in the community doubt the nation's ability to migrate to one band or the manufacturers' ability to produce a widely accepted multiband radio. This is faulty thinking that severely limits our thinking. Both may be doable.

If a single frequency band is chosen, the selection should be based on technical, operational, and fiscal criteria. If vendors can produce multiband radios capable of seamless interoperability with the performance, size, and cost of single band radios, they should so state. In either case, the FCC and NTIA must consider the vision before making public safety spectrum related decisions.

There has been much discussion surrounding the propagation characteristics of the different bands in which public safety operates. Although computer modeling is an important part of propagation analysis, the real answers are in empirical testing and evaluation. What effects do weather, terrain, modulation technique, technology, and frequency actually have on system performance and to what degree? If there is an additional cost for building systems in one band over another, what is the cost and does the benefit gained outweigh the cost?

Surrounded by similar controversy is the issue of using non-proprietary, open architecture technology for a nationwide solution. Proprietary solutions will always be available, always selected by some, and always an exception to the ideal. The question is, can a "network of networks" exist if proprietary solutions remain part of the equation?

Our efforts toward seamless interoperability will be fragmented until we reach a position on these any other critical issues.

Envision the ideal

John Kennedy did not know or understand all that was required to get a man to the moon and back safely, and rightly so. Vision does not require having all the answers. If you have all the answers, there is no need for vision; simple analysis and sound decision making theory is all that is required. The technology needed to get to the moon and back safely was not in place in 1961,

and it would not have been there in 1969 if Kennedy had not put a stake in the ground when he did.

As we seek the ideal for seamless interoperability, it is difficult to argue against the simplicity of multivendor radios operating on multivendor infrastructures in multijurisdictional environments. Maybe all the technology is not in place to implement the ideal (whatever that turns out to be), but how much is there now, and how do we get the rest? Once we get that far, working out the operational, maintenance, and management issues associated with complex two-way radio communications systems becomes more of an operational rather than a technical issue.

Evaluate alternative solutions and select one

How do we build the system envisioned? This is obviously one of the more difficult pieces, but is far less challenging once the steps above are completed. Individual exceptions to the selected solution either by choice or design can now be accommodated through specialized system treatments or operations planning. There will always be some that will choose not to participate; however, once we get this far, everyone will be able to measure the costs of their decision to go one way or the other.

Selecting a universal solution is a lot like coaching an activity or sport – you cannot please everyone so don't try. Do what you know to be right, and move on.

Plan out a course of action; establishing objectives and milestones

Develop a strategic plan for implementing the selected solution based on the availability of technology, operational readiness, funding, and agreement to participate. Establish objectives and milestone commensurate with these factors, and articulate the degree of seamless interoperability expected in terms of operational capabilities and limitations by jurisdiction/agency and/or regional area. Establish a target date for reaching the selected solution and work toward it daily. An example might be an 80/20 target where eighty percent of the nation reaches the selected solution by the year 2020 with specific milestone accomplishments at 2000, 2005, 2010, and 2015.

Communicate the vision and the plan

Now is the time to get the entire community excited. You have something to show those who thirst for a viable solution, but are not visionaries. You also have some of the answers to the anticipated questions that will be asked by the naysayers. This is a difficult task. Just as it was important to select visionaries to create the vision, we must select communicators to communicate it.

Work the plan; adjust only as needed

Once you plan the work, work the plan. Wisdom and seasoning are required for these tasks. Maintaining an incorrect coarse can be just as devastating as making a course correction before it

is needed. Sustained superior performers who have been "around the block" a few times are required during this phase of the endeavor. Someone who can take the heat without folding.

Stay abreast of new operational requirements and technologies

Delivering a twenty year old solution based on twenty year old needs to users who were in diapers when the solution was conceived would be a travesty. Voluminous amounts of work will be required throughout the life of this endeavor. Adjustments to the plan must be made based on actual versus perceived changes in requirements and advances in technology.

Provide continual updates and progress reports; acknowledging failures and successes

Marketing is a critical element in making any project a success. Everyone knows that it is unrealistic to set an endeavor of this magnitude into motion without some degree of failure. We need to tell the community what did not work, why it did not work, and the impact the result is having on the plan. Equally important, accomplishments worthy of praise must be humbly, but boldly publicized. As in many of the preceding steps, the right talent must be brought to bear the burden of intelligent marketing.

We must also consider many issues that transcend an one individual step. Things such as, but not limited to: multijurisdictional agreements and systems; federal participation in non-federal systems; self imposed adherence to standards such as ISO 9000 and 14000 series requirements; appropriating federal, state, and local funding; integrating non-government systems; development and evolution of federal, state, and local emergency plans; system operation, maintenance, and management planning; vendor and industry participation; use of leased services; etc.

Many local, county, and state governments are building systems that provide varying degrees of interoperability. Nonetheless, the wheels are turning from the wrong end. Federal users need to decide what they are going to do, and tell the world where they are going, how they are going to get there, and when they will arrive. Those who want to follow will be able to do so intelligently, and those who do not can measure the cost of their decision to do otherwise.

It is possible to create a national vision this year. If federal public safety providers and the FCC wait longer than that to declare themselves, the window of opportunity for the rest of the nation may pass by us all. If that happens, it will be nearly impossible to have nationwide seamless public safety communications interoperability in our children's lifetime.

This is a "dream" that can come true. Are we up to the task of making it so?